WHAT IS CLAIMED IS:

1. A system in an exposure portion of a lithography tool, the system comprising:

a system support;

a superluminescent device (SLD) coupled to said support; and

a sensor coupled to said support,

wherein light output by said SLD and diffracted from a target is received by said sensor so as to measure a position of the target.

2. The system of claim 1, wherein the light has a longitudinal coherence length that substantially eliminates interference from at least one of ghost and spurious reflections with the desired measurement beams.

3. The system of claim 1, further comprising:

optical elements positioned between the SLD and the measurement location, wherein a coherence length of the light is less than a smallest spacing between the optical elements.

4. The system of claim 1, further comprising:

an optical element positioned between the SLD and the target, wherein a coherence length of the light is less than an optical path difference of the optical element.

5. The system of claim 1, wherein the SLD comprises a laser diode having an anti-reflection coating on at least one surface.

6. The system of claim 2, wherein the position of the target is determined using interferometry.

7. The system of claim 2, wherein a coherence length of the light is about 0.5 mm or less.

8. A method of reducing interference from unwanted reflections during interferometric alignment measuring in a lithography tool, comprising:

diffracting superluminescent light from a target to produce +/- first order diffracted beams;

combining the +/- first order diffracted beams; and

determining an interference pattern generated from said combining step.

9. The method of claim 8, further comprising using a SLD to generate the superluminescent light.

10. The method of claim 8, further comprising using a laser diode having at least one anti-reflective surface to generate the superluminescent light.

11. The method of claim 8, further comprising directing the superluminescent light towards the surface of the target using an optical element, wherein a coherence length of the superluminescent light is less than an optical path difference of the optical element.

12. The method of claim 8, further comprising using an SLD to generate the superluminescent light having a coherence length of 0.5mm or less.

13. The method of claim 8, further comprising directing the superluminescent light towards the surface of the target using optical elements, wherein a coherence length of the superluminescent light is less than a spacing between the optical elements.